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Date: July 14, 2010

By /Marvette L. Ferguson/
Marvette L. Ferguson

Attorney Docket No. 101769-315
Confirmation No. 4883

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANT : HUSEMANN, et al.
SERIAL NO. : 10/539,792
CUSTOMER NO. : 27384
FILED : May 9, 2006
FOR : TRANSPARENT ACRYLATE ADHESIVE MASS
COMPRISING A FILLER
ART UNIT : 1796
EXAMINER : Karuna P. Reddy
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

APPELLANTS' BRIEF ON APPEAL PURSUANT TO 37 CFR § 41.37

SIR:

This is an appeal from the final rejection of claims 1-6, 9-12, 14-17, 19 and 20.

(1) REAL PARTY IN INTEREST

The real party in interest is tesa Aktiengesellschaft (now tesa SE), by virtue of an assignment recorded in the U.S. Patent and Trademark Office on May 9, 2006, at Reel 017919, Frame 0653.

(2) RELATED APPEALS AND INTERFERENCES

There are no related appeals or interferences.

(3) STATUS OF CLAIMS

The application was originally filed with claims 1-18. The preliminary amendment filed at the time of filing canceled claim 18 and added claims 19 and 20, leaving claims 1-17, 19 and 20 then pending. The amendment filed May 29, 2007, canceled claim 8, leaving claims 1-7, 9-17, 19 and 20 then pending. Finally, the amendment dated July 7, 2008, canceled claims 7 and 13, leaving the current claims 1-6, 9-12, 14-17, 19 and 20 pending. This appeal is taken as to the final rejection of all of the current claims, i.e., claims 1-6, 9-12, 14-17, 19 and 20.

(4) STATUS OF AMENDMENTS

There have not been any amendments after the final rejection.

(5) SUMMARY OF THE CLAIMED SUBJECT MATTER

As discussed in the instant specification at page 1, line 15, continuing over to page 2, line 6, soft polyacrylate pressure-sensitive adhesives (PSAs) are frequently blended with fillers in order to ensure slitability when such adhesives are incorporated into acrylate PSA tapes. The current trend is to prepare such PSA tapes by the hotmelt process, but fiber fillers pose problems in such process. Accordingly, the artisan would like to use conventional fillers, such as silicates, but their use has been problematic in that they can cause a clouding of the acrylate PSA. There was, thus, a need in the art for a filler that behaves transparently in the PSA, but yet at the same time enhances the cohesion of the PSA and the slitability thereof.

The present invention satisfies these goals, as proven, for example, by the data in the instant specification. See, especially, page 13, lines 4-5 and 8-12. The data prove the inventive adhesives are characterized by improved cohesion and improved slitability.

There is a single independent claim, viz., claim 1, which relates to a transparent acrylate pressure-sensitive adhesive (**page 1, line 11**) comprising a polyacrylate (**page 2, line 9**) and a filler, wherein the filler comprises particles of silicate and/or of silica gel (**page 2, line 9**), wherein said particles additionally comprise a coating of polyacrylate chemically bonded to a free radical initiator (**page 3, lines 27-31**) which free-radical initiator is chemically bonded to said silicate and/or silica gel (**page 4, lines 11-12**), and wherein the polyacrylate-coated particles of

silicate and/or of silica gel have a size of not more than 50 nm (**page 2, line 10**).

(6) GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

There are two grounds of rejection to be reviewed on appeal:

I. Claims 1, 2, 4-6, 9-11, 14-17, 19 and 20 stand finally rejected under 35 USC § 103(a) as being obvious over Schimdt et al. (“Schmidt”), US 5,910,522, in view of Prucker et al. (“Prucker”), *Macromolecules*, 31: 602-613 (1998).

II. Claims 3 and 12 stand finally rejected under 35 USC § 103(a) as being obvious over Schmitt in view of Prucker as evidenced by Knovel (Knovel critical tables — Publication 2003).

(7) ARGUMENT

I. Obviousness of Claims 1, 2, 4, 5, 9-12, 14-17, 19 and 20 over Schmidt in view of Prucker

Appellant respectfully submits that the Examiner has committed the following errors:

A. The Examiner errs in failing to give weight to the fact that while the instant claims are drawn to “transparent acrylate *pressure-sensitive adhesive*,” Schmidt is not drawn to a pressure-sensitive adhesive.

Main claim 1, from which all of the other rejected claims depend, expressly states that the invention claimed is “[a] *transparent* acrylate *pressure-sensitive* adhesive comprising (emphasis added)” the indicated components. The Examiner says in the first full paragraph on page 7 of the final rejection that this is an intended use, and, thereafter ignores it. However, “a claim preamble has the import that the claim as a whole suggests for it.” *Bell Communications Research, Inc. v. Vitalink Communications Corp.*, 55 F.3d 615, 620, 34 USPQ2d 1816, 1820 (Fed. Cir. 1999). “If the claim preamble, when read in the context of the entire claim, recites limitations of the claim, or, if the claim preamble is ‘necessary to give life, meaning, and vitality’ to the claim, then claim preamble should be construed as if in the balance of the claim.” *Pitney Bowes, Inc. v. Hewlett-Packard Co.*, 182 F.3d 1298, 1305, 51 USPQ2d 1161, 1165-66 (Fed. Cir. 1999). *See, also*, *MPEP* § 2111.02. Clearly, the preamble constitutes a limitation in this case. Not only does it specify that the adhesive is “pressure-sensitive,” but it also specifies that the adhesive is “transparent.” The Examiner cannot meet the terms of this claim by citing Schmidt, which does not deal with a pressure-sensitive adhesive, any more than she could meet the terms of this claim

by citing a reference that described an adhesive that was not transparent. Clearly, transparency and pressure-sensitivity are structural characteristics that both must be found in Schmidt in view of Prucker in order for a *prima facie* case of obviousness to lie. The Examiner has made no such showing that the combination of Schmidt and Prucker teaches or suggests pressure-sensitive adhesives.

Further on this point, Wikipedia defines a “pressure-sensitive adhesive” as an “adhesive which forms a bond when pressure is applied to marry the adhesive with the adherent.” Wikipedia also points out that “[n]o solvent, water, *or heat* is needed to activate the adhesive.”

The Examiner completely ignores this limitation, describing Schmidt in all occurrences as “disclosing *an* adhesive,” and nowhere even alleging that Schmidt describes pressure-sensitive adhesives.

Further, Appellants respectfully submit that it would be immediately apparent to anyone skilled in the art that Schmidt’s materials are not pressure-sensitive adhesives, but, rather, **liquid** hardening adhesives, i.e., they are activated by applying the adhesive to parts to be joined, joining the parts and then curing the adhesive, for instance, thermally. See, for example, Schmidt’s claims 13 and 14. See also, Schmidt at column 7, lines 13-15; “[t]he finished composite adhesive **is applied** onto the substrate(s) to be connected or said substrate(s) is (are) **dipped into** said adhesive (emphasis added).”

The rejection of the instant claims as being obvious over Schmidt in view of Prucker is clearly in error as the Examiner has not dealt with the pressure-sensitive adhesive claim limitation.

- B. The Examiner errs in finding Schmidt in view of Prucker renders *prima facie* obvious filler particles comprising a coating of a polyacrylate chemically bonded to a free radical initiator, which initiator is, in turn, chemically bonded to silicate and/or silica gel.

The Examiner concedes in the last full paragraph on page 4 of the final rejection that:

“Schmidt is *silent* with respect to coating of filler (i.e., silicate and/or silica gel) with polyacrylate that is chemically bonded to a free-radical initiator which free radical initiator is chemically bonded to silicate and/or silica gel.”

However, the Examiner relies on Prucker to bridge the gap, finding in the middle of the first paragraph on page 5 that:

“Therefore, in light of the teachings in Prucker et al, it would have been obvious to one skilled in the art at the time the invention was made to attach the azo initiator, of Schmidt et al, to surface of solid materials, such as the nanoparticulate silicates and SiO₂ of Schmidt et al, and polymerize the monomers of Schmidt et al (i.e., acrylic acid and methacrylic acid), because Schmidt contemplates surface modification of nanoparticles with polymers and Prucker et al has shown that graft density and accordingly layer thickness of polymer on the solid surface can be controlled by attaching initiator to the solid surface and then polymerizing monomer on the said surface, and one of ordinary skill in the art would expect such a modification to work for the nanoparticle of Schmidt et al, motivated by expectation of success.”

Appellants respectfully submit that this is complete conjecture, unsupported by anything on the present record.

According to the Examiner, the present invention would have been obvious “*because* Schmidt *contemplates surface modification* of nanoparticles *with polymers* (emphasis added).”

Respectfully, Appellants can find no such teaching in Schmidt, and the Examiner has not pointed to any.

Schmidt teaches at column 2, lines 8ff, that his invention relates to suspensions of nanoscale particles incorporated into polymer adhesives. Schmidt teaches at column 2, lines 11-13, that following the teachings of his invention leads to a situation wherein optical transparency of the resulting combination adhesive is maintained while at the same time a “steep qualitative increase in the mechanical and thermo-mechanical properties” is observed. Schmidt further teaches at column 2, lines 16-22, that:

*“The important factor for said improvement is that said nanoscale particles are integrated into the adhesive **not** as agglomerated particles but **in the form of stabilized, (substantially) agglomerate-free suspensions** and that said agglomerate-free condition is maintained (optionally by an appropriate surface modification of said particles) even after the excess solvent has been stripped off the adhesive (emphasis added).”*

Schmidt adds at column 2, lines 46-48, that:

*“[I]t is of critical importance that the agglomerate-free condition is maintained in the composite (**e.g. by appropriate surface modifications**) in order to realize the above causal chain for generating said new properties (again, emphasis added).”*

Consequently, Schmidt teaches **optional** surface modification of the nanoscale particles for the purpose of avoiding agglomeration of the particles.

Schmidt teaches suitable surface modifiers beginning at column 5, lines 29, continuing over to column 6, line 22. These are generally **small** molecules, and, respectfully, there is no

general teaching or suggestion that the nanoscale particles can be freely surface modified with polymers. Instead, Schmidt teaches such compounds:

“[Such compounds] are particularly compounds having a molecular weight which does not exceed 500, preferably not exceed 350 and particularly not exceed 200. Such compounds are preferably liquid under normal conditions and preferably have not more than a total of 15, particularly not more than a total of 10 and particularly preferred not more than 8 carbon atoms.”

Examples given of such surface modifiers include mono- and polycarboxylic acids (column 5, lines 55 ff); quaternary ammonium salts (column 5, lines 64 ff); hydroxides and amines (column 6, lines 18 ff).

Again, there is no teaching or suggestion that Schmidt contemplates surface modification with polymers, as alleged by the Examiner.

Just as important, there is no mention anywhere in Schmidt’s statement of suitable surface modifiers of the free-radical initiator, which, according to the current claims, must be bonded between the polyacrylate coating and the silicate and/or silica gel.

In short, Appellants respectfully submit that there is no teaching or suggestion in Schmidt (1) to use a free-radical initiator as a surface modifier; or (2) to surface modify Schmidt’s nanoscale particles hypothetically modified with free-radical initiator with a polymer to form a coating around such hypothetically modified nanoscale particles; or, therefore, (3) to modify Schmidt with Prucker’s polymer coating process. Further, any such surface modification is expressly only an optional embodiment, and the Examiner has not shown conditions attendant to the use of the instant polyacrylates pressure-sensitive adhesives or silicate and/or silica gel filler

that would have led persons skilled in the art to surmise that surface modification of such filler should be carried out.

As reaffirmed by the Court in *In re Regel et al.*, 188 USPQ 136, 139, footnote 5 (CCPA 1975):

“The mere fact that it is *possible* to find two isolated disclosures which might be combined in such a way to produce a new compound does not necessarily render such production obvious unless the art also contains something to suggest the *desirability* of the proposed combination (emphasis added).”

Respectfully, this rejection must fail as the Examiner provides no cogent reason why a person having ordinary skill in the art should carry out any of manipulations (1)-(3) above, or even surface modify the instant filler in the first place. Appellants respectfully submit these gaping holes in the evidence are fatal to the Examiner’s position.

Even if the Examiner had filled in these holes, Appellants respectfully submit that the claimed subject matter would not have been obvious to a person having ordinary skill in the art because, before even getting to the point where the holes become pertinent, a person having ordinary skill in the art already must make a number of selections within Schmidt’s disclosure, and the Examiner has not pointed to anything that would have led persons skilled in the art to make the selections necessary to arrive at the mixture that would have to be thermally cured in order to achieve, according to the Examiner’s theory, the instant constructs.

First, persons skilled in the art would have to choose polyacrylates as the base adhesive. Although Schmidt mentions polyacrylates at column 3, line 42, polyacrylates are one of a large number of listed polymers.

Second, such persons would have to select silicate and/or silica gel as the fillers. Schmidt mentions silicates at column 4, line 6, but once again as a part of a large list of inorganic polymers.

Third, such persons would have to select small-sized silicates. Schmidt teaches at column 4, lines 36-38, that the particles usually have a size of 1 to 200 nm, which is too big a range to meet the claim requirement of “not more than 50 nm.” Although Schmidt teaches a preferred and particularly preferred range of “to 50 nm” and “to 20 nm,” respectively, these are further selections that would need to be made.

Fourth, such persons would have to select the size of the silicates so that after the Examiner’s polymer-surface-modification theory is carried out there results polyacrylate-initiator-silicate and/or silica gel particulates no more than 50 nm in size.

Fifth, such persons would need to select a free-radical initiator, and modify the surface of the silicate and/or silica gel filler. Again, such materials are within Schmidt’s broad teachings, but there is no teaching or suggestion of modifying the surface of Schmidt’s nanoscale particles with free-radical initiator.

Sixth, once such selections were made, such persons would need to carry out a thermal curing under conditions that yield polyacrylate chemically bonded to initiator chemically bonded to silicate and/or silica gel, again, with the size restrictions discussed above.

Finally, such persons would need to do all this in the context of preparing a pressure-sensitive adhesive, a requirement that, as noted above, the Examiner has not dealt with at all.

Respectfully, there is nothing in Schmidt alone or combined with Prucker that would

have directed persons skilled in the art to make all of these selections and then all of the manipulations that would be required to achieve the instant constructs. Even if such selections *could* be made, Appellants point out that such possibility does not make out a *prima facie* case of obviousness. *See, In re Baird*, 29 USPQ2d 1550, 1552 (Fed. Cir. 1994) (“The fact that a claimed compound may be encompassed by a disclosed generic formula does not by itself render that compound obvious.”) Instead, a *prima facie* case of obviousness is only made out if the prior art highlighted the selections that must be made to achieve the claimed compounds in some manner, and, therefore, led persons skilled in the art towards them. The Examiner makes absolutely no case how the prior art highlights the pertinent selections and, thus, leads persons skilled in the art to the instant constructs. In the absence of such effort, the Examiner has failed to make out a *prima facie* case of obviousness.

In view of the foregoing, Appellants respectfully submit that the combination of Schmidt in view of Prucker fails to make out a *prima facie* case of the obviousness of the rejected claims.

II. Obviousness of Claims 3 and 12 over Schmidt in view of Prucker as evidenced by Knovel

Appellants respectfully submit that the Examiner commits the following errors:

A. The Examiner errs in failing to recognize that while the instant claims are drawn to “transparent acrylate *pressure-sensitive adhesive*,” Schmidt is not drawn to a pressure-sensitive adhesive.

The Examiner completely ignores the limitation of the claims that the adhesive is a “pressure-sensitive adhesive,” describing Schmidt in all occurrences as “disclosing *an* adhesive,” and nowhere even alleging that Schmidt describes pressure-sensitive adhesives. However, as noted above, pressure-sensitivity, although stated in the preamble, is a positive structural limitation that must be found in the combination of Schmidt and Prucker in order for *prima facie* obviousness to lie, and the Examiner has not made the case that this feature of the claimed invention is found in the combination of Schmidt and Prucker.

Indeed, as noted above, Appellants respectfully submit that it would be immediately apparent to anyone skilled in the art that Schmidt’s materials are ***not*** pressure-sensitive adhesives, but, rather, hardening adhesives, i.e., they are activated by applying the adhesive to parts to be joined, joining the parts and then curing the adhesive, for instance, thermally. See, for example, Schmidt’s claims 13 and 14.

The rejection of the instant claims as being obvious over Schmidt in view of Prucker as evidenced by Knovel is clearly in error as the Examiner has not dealt with the pressure-sensitive claim limitation.

- B. The Examiner errs in finding Schmidt in view of Prucker renders *prima facie* obvious filler particles comprising a coating of a polyacrylate chemically bonded to a free radical initiator, which initiator is, in turn, chemically bonded to silicate and/or silica gel.

Again, the Examiner concedes in the last full paragraph on page 4 of the final rejection that:

“Schmidt is *silent* with respect to coating of filler (i.e., silicate and/or silica gel) with polyacrylate that is chemically bonded to a free-radical initiator which free radical initiator is chemically bonded to silicate and/or silica gel.”

The Examiner relies on Prucker to bridge the gap, finding in the middle of the first paragraph on page 5 that:

“Therefore, in light of the teachings in Prucker et al, it would have been obvious to one skilled in the art at the time the invention was made to attach the azo initiator, of Schmidt et al, to surface of solid materials, such as the nanoparticulate silicates and SiO₂ of Schmidt et al, and polymerize the monomers of Schmidt et al (i.e., acrylic acid and methacrylic acid), because Schmidt contemplates surface modification of nanoparticles with polymers and Prucker et al has shown that graft density and accordingly layer thickness of polymer on the solid surface can be controlled by attaching initiator to the solid surface and then polymerizing monomer on the said surface, and one of ordinary skill in the art would expect such a modification to work for the nanoparticle of Schmidt et al, motivated by expectation of success.”

According to the Examiner, the present invention would have been obvious “*because* Schmidt *contemplates surface modification* of nanoparticles *with polymers* (emphasis added).”

However, as developed above, Schmidt contains no such teaching or suggestion of surface

modification of nanoparticles with polymers, and the Examiner has not pointed to any. Consequently, the Examiner's rejection must fail, being based on a faulty premise.

As noted above, Schmidt teaches at column 2, lines 8ff, that his invention relates to suspensions of nanoscale particles incorporated into polymer adhesives. Schmidt teaches at column 2, lines 11-13, that following the teachings of his invention leads to a situation wherein optical transparency of the resulting combination adhesive is maintained while at the same time a "steep qualitative increase in the mechanical and thermo-mechanical properties" is observed. Schmidt further teaches at column 2, lines 16-22, that:

*"The important factor for said improvement is that said nanoscale particles are integrated into the adhesive **not** as agglomerated particles but **in the form of stabilized, (substantially) agglomerate-free suspensions** and that said agglomerate-free condition is maintained (optionally by an appropriate surface modification of said particles) even after the excess solvent has been stripped off the adhesive (emphasis added)."*

Schmidt adds at column 2, lines 46-48, that:

*"[I]t is of critical importance that the agglomerate-free condition is maintained in the composite (**e.g. by appropriate surface modifications**) in order to realize the above causal chain for generating said new properties (again, emphasis added)."*

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general teaching or suggestion that the nanoscale particles can be freely surface modified with polymers. Instead, Schmidt teaches such compounds:

“[Such compounds] are particularly compounds having a molecular weight which does not exceed 500, preferably not exceed 350 and particularly not exceed 200. Such compounds are preferably liquid under normal conditions and preferably have not more than a total of 15, particularly not more than a total of 10 and particularly preferred not more than 8 carbon atoms.”

Examples given of such surface modifiers include mono- and polycarboxylic acids (column 5, lines 55 ff); quaternary ammonium salts (column 5, lines 64 ff); hydroxides and amines (column 6, lines 18 ff).

Again, there is no teaching or suggestion that Schmidt contemplates surface modification with polymers, as alleged by the Examiner.

Just as important, there is no mention anywhere in Schmidt’s statement of suitable surface modifiers of the free-radical initiator, which, according to the current claims, must be bonded between the polyacrylate coating and the silicate and/or silica gel.

In short, Appellants respectfully submit that there is no teaching or suggestion in Schmidt (1) to use a free-radical initiator as a surface modifier; or (2) to surface modify Schmidt’s nanoscale particles hypothetically modified with free-radical initiator with a polymer to form a coating around such hypothetically modified nanoscale particles; or, therefore, (3) to modify Schmidt with Prucker’s polymer coating process. Further, any such surface modification is expressly only an optional embodiment, and the Examiner has not shown conditions attendant to the use of the instant polyacrylates pressure-sensitive adhesives or silicate and/or silica gel filler

that would have led persons skilled in the art to surmise that surface modification of such filler should be carried out.

As noted above, the Court in *In re Regel et al.*, 188 USPQ 136, 139, footnote 5 (CCPA 1975), reaffirmed that:

“The mere fact that it is *possible* to find two isolated disclosures which might be combined in such a way to produce a new compound does not necessarily render such production obvious unless the art also contains something to suggest the *desirability* of the proposed combination (emphasis added).”

Respectfully, this rejection must fail as the Examiner provides no cogent reason why a person having ordinary skill in the art should carry out any of manipulations (1)-(3) above, or even surface modify the instant filler in the first place. Appellants respectfully submit these gaping holes in the evidence are fatal to the Examiner’s position.

Even if the Examiner had filled in these holes, Appellants respectfully submit that, as noted above, the claimed subject matter would not have been obvious to a person having ordinary skill in the art because, before even getting to the point where the holes become pertinent, a person having ordinary skill in the art already must make a number of selections within Schmidt’s disclosure, and the Examiner has not pointed to anything that would have led persons skilled in the art to make the selections necessary to arrive at the mixture that would have to be thermally cured in order to achieve, according to the Examiner’s theory, the instant constructs.

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number of listed polymers.

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Third, such persons would have to select small-sized silicates. Schmidt teaches at column 4, lines 36-38, that the particles usually have a size of 1 to 200 nm, which is too big a range to meet the claim requirement of “not more than 50 nm.” Although Schmidt teaches a preferred and particularly preferred range of “to 50 nm” and “to 20 nm,” respectively, these are further selections that would need to be made.

Fourth, such persons would have to select the size of the silicates so that after the Examiner’s polymer-surface-modification theory is carried out there results polyacrylate-initiator-silicate and/or silica gel particulates no more than 50 nm in size.

Fifth, such persons would need to select a free-radical initiator, and modify the surface of the silicate and/or silica gel filler. Again, such materials are within Schmidt’s broad teachings, but there is no teaching or suggestion of modifying the surface of Schmidt’s nanoscale particles with free-radical initiator.

Sixth, once such selections were made, such persons would need to carry out a thermal curing under conditions that yield polyacrylate chemically bonded to initiator chemically bonded to silicate and/or silica gel, again, with the size restrictions discussed above.

Finally, such persons would need to do all this in the context of preparing a pressure-sensitive adhesive, a requirement that, as noted above, the Examiner has not dealt with at all.

Respectfully, there is nothing in Schmidt alone or combined with Prucker that would have directed persons skilled in the art to make all of these selections and then all of the manipulations that would be required to achieve the instant constructs. Even if such selections *could* be made, Appellants point out that such possibility does not make out a *prima facie* case of obviousness. *See, In re Baird*, 29 USPQ2d 1550, 1552 (Fed. Cir. 1994) (“The fact that a claimed compound may be encompassed by a disclosed generic formula does not by itself render that compound obvious.”) Instead, a *prima facie* case of obviousness is only made out if the prior art highlighted the selections that must be made to achieve the claimed compounds in some manner, and, therefore, led persons skilled in the art towards them. The Examiner makes absolutely no case how the prior art highlights the pertinent selections and, thus, leads persons skilled in the art to the instant constructs. In the absence of such effort, the Examiner has failed to make out a *prima facie* case of obviousness.

These errors are not remedied by resort to Knovel. Indeed, the Examiner does not anywhere explain her reliance on Knovel in view of the new ground of rejection. Consequently, with the combination of Schmidt, Prucker and Knovel, the Examiner has likewise failed to make out a *prima facie* case of the obviousness of claim 3 or 12.

In view of the foregoing, Appellants respectfully request that the Honorable Board reverse the final rejections.

AUTHORIZATION TO CHARGE FILING FEE TO DEPOSIT ACCOUNT

It is requested that the fee for the filing of the Brief on Appeal be charged to the undersigned's Deposit Account No. 14-1263 in the amount of \$540.00 for other than a small entity.

CONDITIONAL PETITION FOR EXTENSION OF TIME

If any extension of time for this response is required, appellant requests that this be considered a petition therefor. Please charge the required Petition fee to Deposit Account No. 14-1263.

ADDITIONAL FEE

Please charge any insufficiency of fees, or credit any excess to our Deposit Account No. 14-1263.

Respectfully submitted,

NORRIS MCLAUGHLIN & MARCUS, P.A.

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(8) CLAIMS APPENDIX

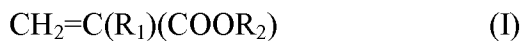
1. A transparent acrylate pressure-sensitive adhesive comprising a polyacrylate and a filler, wherein the filler comprises particles of silicate and/or of silica gel, wherein said particles additionally comprise a coating of polyacrylate chemically bonded to a free radical initiator which free-radical initiator is chemically bonded to said silicate and/or silica gel, and wherein the polyacrylate-coated particles of silicate and/or of silica gel have a size of not more than 50 nm.

2. The acrylate pressure-sensitive adhesive of claim 1, wherein the polyacrylate-coated particles of silicate and/or of silica gel have a size of 10 to 30 nm.

3. The acrylate pressure-sensitive adhesive of claim 1, wherein the polyacrylate-coated particles of silicate and/or of silica gel are present with a weight fraction of 0.5 to 25 relative to unfilled silicate/silica gel.

4. The acrylate pressure-sensitive adhesive of claim 1, wherein the polyacrylate is obtained from a comonomer composition comprising:

- a) acrylic acid and methacrylic acid derivatives of the formula (I), with a fraction of 70 to 100 percent by weight,



where $R_1 = H$ or CH_3 and $R_2 = H$ or an alkyl chain having 2 to 20 carbon atoms, or stearyl (meth)acrylate or (meth)acrylic acid, and

- b) vinyl compounds comprising functional groups, with a fraction of 0 to 30 percent by weight.

5. The acrylate pressure-sensitive adhesive of claim 4, wherein the vinyl compound is a maleic anhydride, a styrene, a styrene compound, a vinyl acetate, a (meth)acrylamide, an N-substituted (meth)acrylamide, a β -acryloyloxypropionic acid, a vinyl acetic acid, a fumaric acid, a crotonic acid, an aconitic acid, a dimethylacrylic acid, a trichloroacrylic acid, an itaconic acid, a hydroxyalkyl (meth)acrylate, an amino-containing (meth)acrylate, a hydroxyl-containing (meth)acrylate, a 2-hydroxyethyl (meth)acrylate, a 2-hydroxypropyl (meth)acrylate, and/or a 4-hydroxybutyl (meth)acrylate.

6. The acrylate pressure-sensitive adhesive of claim 4, wherein the vinyl compound is a double-bond-functionalized photoinitiator.

9. The acrylate pressure-sensitive adhesive of claim 1, wherein the polyacrylate of the pressure-sensitive adhesive and of the polyacrylate-coated particle coating are identical.

10. A process for preparing an acrylate pressure-sensitive adhesive of claim 1, said process comprising polymerizing the acrylates and comonomers in the presence of at least one

organic solvent or in bulk, the polyacrylate-coated particles of silicate and/or of silica gel being mixed in.

11. The process of claim 10, wherein polyacrylate-coated particles of silicate and/or of silica gel having a maximum size of 50 nm are mixed in.

12. The process of claim 10, wherein the polyacrylate-coated particles of silicate and/or of silica gel are mixed in with a weight fraction of 0.5 to 25 relative to unfilled silicate/silica gel.

14. The process of claim 10, wherein the polyacrylate-coated particles of silicate and/or of silica gel are mixed in during or after the polymerization.

15. The process of claim 10, wherein the polyacrylate of the acrylate pressure-sensitive adhesive and of the polyacrylate-coated particle coating are identical.

16. The process of claim 10, which further comprises crosslinking the acrylate pressure-sensitive adhesive by UV irradiation in the range from 200 to 400 nm.

17. The process of claim 16, wherein the acrylate pressure-sensitive adhesive is crosslinked by ionizing radiation or by thermal crosslinking.

19. A pressure-sensitive adhesive tape comprising the acrylate pressure-sensitive

adhesive of claim 1.

20. A bonding method comprising applying a pressure-sensitive adhesive tape of claim 19 to a substrate.

(9) EVIDENCE APPENDIX

NONE

(10) RELATED PROCEEDINGS APPENDIX

NONE